(12) UK Patent Application (19) GB (11) 2 244 896 (13) A

(43) Date of A publication 11.12.1991

(21) Application No 9107076.3

(22) Date of filing 04.04.1991

(30) Priority data
(31) 9007661 (32) 04.04.1990 (33) GB

(71) Applicant
AG (Patents) Limited

(Incorporated in the United Kingdom)

24 Portland Place, London, W1, United Kingdom

(72) Inventor
David John Powell

(74) Agent and/or Address for Service
Edward Evans & Co
Chancery House, 53-64 Chancery Lane, London,
WC2A 1SD, United Kingdom

(51) INT CL[5]
G06F 15/44

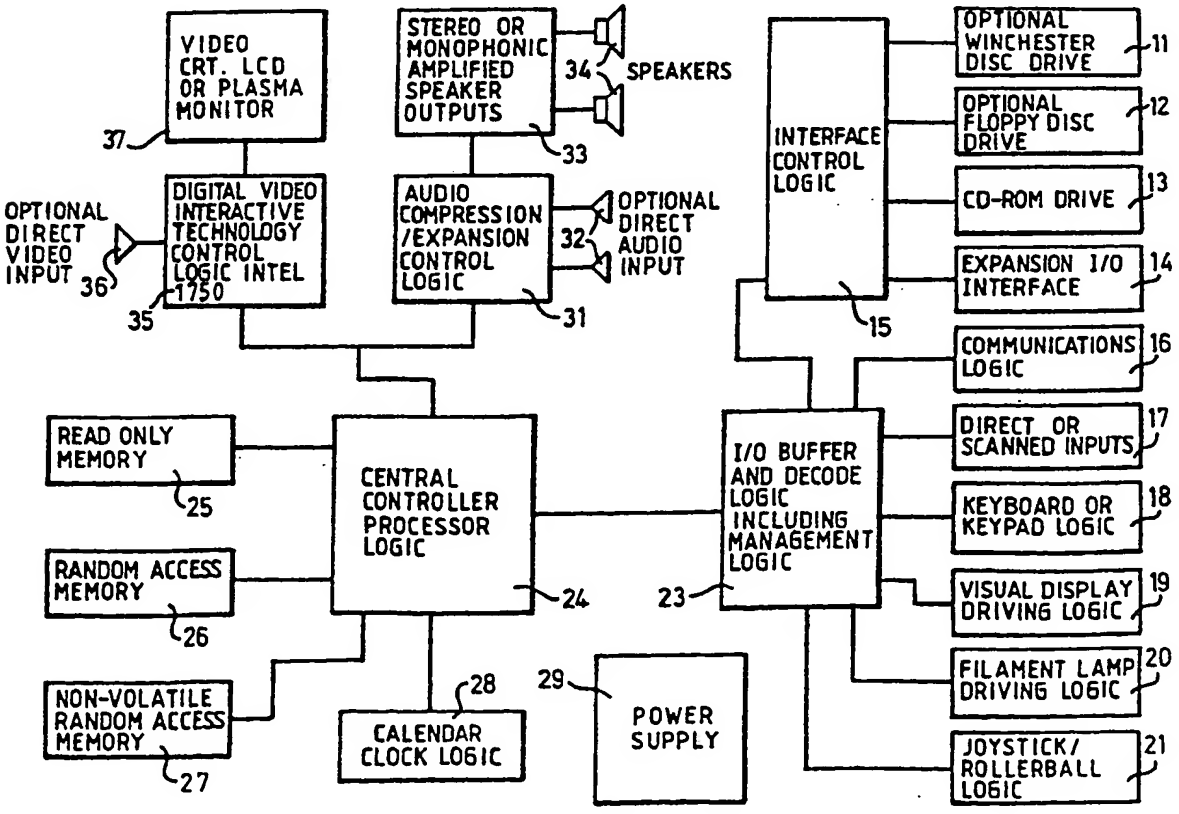
(52) UK CL (Edition K)
H4T TBAG T109

(56) Documents cited
WO 88/06775 A1

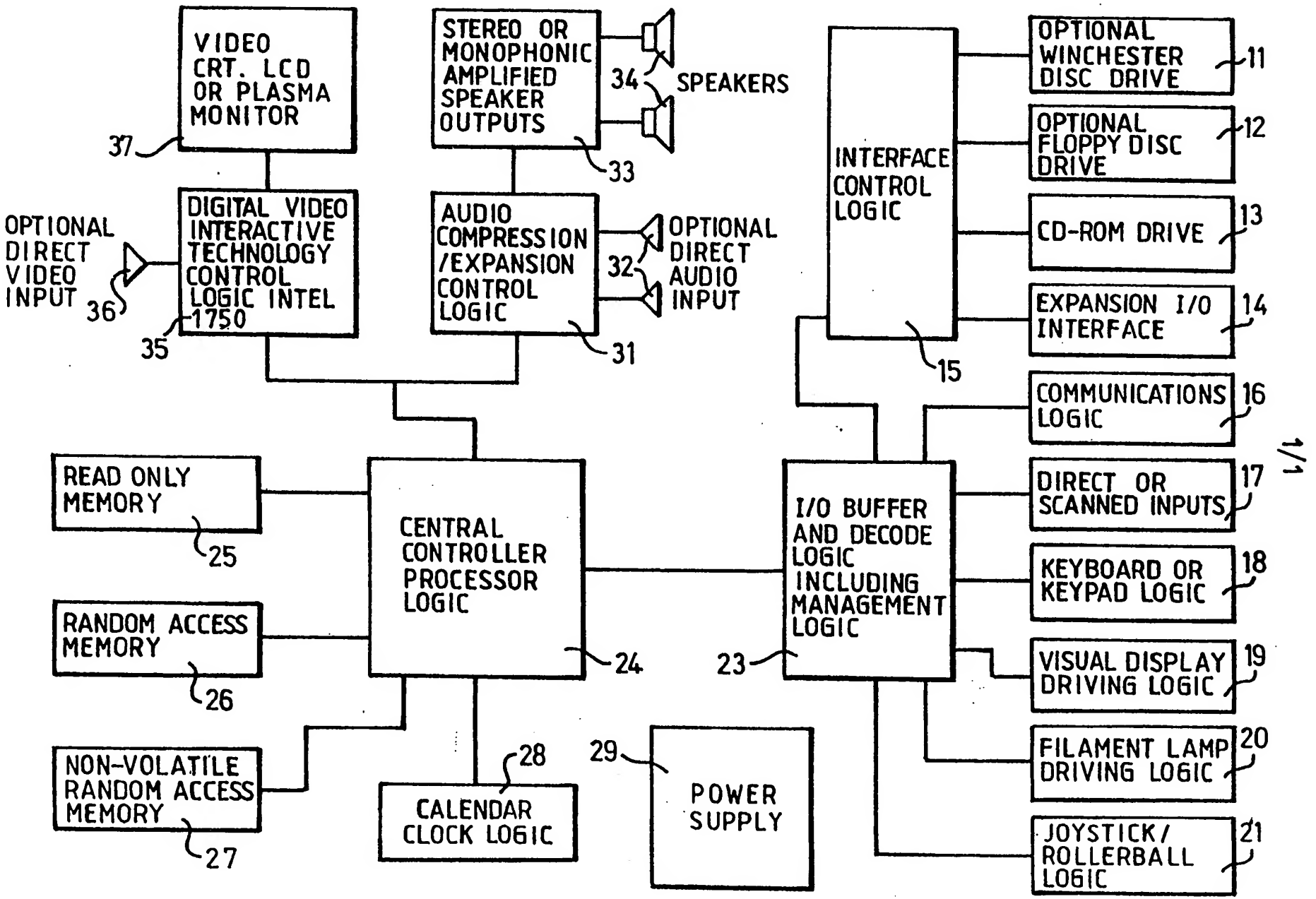
(58) Field of search
UK CL (Edition K) H4F FAA, H4T TBAG TBAX
INT CL[5] G06F
On-line databases: WPI, INSPEC

(54) Display of video images

(57) Amusement apparatus uses digital video interactive equipment (35, 24) to control extraction of video images from a memory (preferably on 5CD-ROM 13) and display (37).



GB 2 244 896


VIDEO CRT. LCD OR PLASMA MONITOR
37
STEREO OR MONOPHONIC AMPLIFIED SPEAKER OUTPUTS
34
SPEAKERS
33
INTERFACE CONTROL LOGIC
OPTIONAL WINCHESTER DISC DRIVE
11
OPTIONAL FLOPPY DISC DRIVE
12
CD-ROM DRIVE
13
EXPANSION I/O INTERFACE
14
15
OPTIONAL DIRECT VIDEO INPUT
36
DIGITAL VIDEO INTERACTIVE TECHNOLOGY CONTROL LOGIC INTEL 1750
35
AUDIO COMPRESSION /EXPANSION CONTROL LOGIC
32
OPTIONAL DIRECT AUDIO INPUT
31
COMMUNICATIONS LOGIC
16
READ ONLY MEMORY
25
CENTRAL CONTROLLER PROCESSOR LOGIC
24
I/O BUFFER AND DECODE LOGIC INCLUDING MANAGEMENT LOGIC
23
DIRECT OR SCANNED INPUTS
17
KEYBOARD OR KEYPAD LOGIC
18
RANDOM ACCESS MEMORY
26
VISUAL DISPLAY DRIVING LOGIC
19
FILAMENT LAMP DRIVING LOGIC
20
NON-VOLATILE RANDOM ACCESS MEMORY
27
28
CALENDAR CLOCK LOGIC
29
POWER SUPPLY
JOYSTICK/ ROLLERBALL LOGIC
21

1/1

DISPLAY OF VIDEO IMAGES

This invention relates in one aspect to the display of video images which have been stored on semi-conductor equipment. Previously, images stored on semi-conductor equipment have been of very poor quality and are usually generated by computer graphics because the storage capacity of the semi-conductor equipment has been limited. With the introduction of digital video interactive (DVI) equipment, very much greater storage capacity has been made available and so it is possible to store images with very much greater resolution such as video images. Optical apparatus is used to form a video image, even though the image may be subsequently stored in digital form. The DVI equipment, made by Intel Inc., uses coding and decoding equipment in order to obtain maximum storage capacity in a given memory for the video images. The images can be still or motion pictures. The storage system is interactive, thus allowing very fast access to any part of the stored information. Storage usually occurs on a CD-ROM which is small in size and not liable to damage and so makes it possible for interchange of storage disks to be effected without risk of damage.

The present invention comprises the combination of amusement apparatus with DVI equipment, the DVI equipment being used to extract video images from a memory where they are stored in compressed form which images are used in conjunction with other parts of the amusement apparatus. This apparatus may include sound reproducing apparatus, the video display being synchronized with the sound reproduction or at least the sound and video signals may form components of the same sound and video programme. In an alternative apparatus, game apparatus may use the DVI video display system in order to produce video images accompanying a game which may be played by operating manual controls in response to the information provided in the video images. The manual controls may include a keyboard and/or a joystick.

An example of the invention will now be described with reference to the accompanying drawings in which:-

An amusement with prizes apparatus has various inputs, including an optional winchester disk drive 11, an optional floppy disk drive 12, a CD-ROM drive 13 and an expansion input output interface 14 all feeding into an interface control logic circuit 15.

The appparatus may also include communications logic 16, direct or scanned inputs 17, keyboard or keypad logic 18, visual display driving logic 19, filament lamp driving logic 21 and joystick or rollerball logic 22 and all of the items 15 to 22 feed into an input output buffer and decode logic including management logic circuit 23 which in turns feeds into a central controller processor logic circuit 24. The circuit 24 is also supplied with read only memory 25, random access memory 26, non-volatile random access memory 27 and calendar control logic 28. A general power supply 29 feeds the other components.

The output of the central controller processor logic 24 is applied in parallel to audio and video channels. The audio channel includes an audio compression/expansion control logic 31 which may have optional direct audio inputs 32 and feed stereo or monophonic amplified speaker outputs 33 connected to speakers 34. The video channel comprises a digital video interactive technology control logic 35 which includes the intel chip set I-750 and may be provided with an optional direct video input 36 and the logic circuit in turn feeds a cathode ray tube, liquid crystal display or plasma monitor 37.

The central portions of the apparatus described above may for example be an AT type computer using a 386 chip operating at 20MHz. This computer receives signals from the storage equipment feeding into the interface control logic circuit 15. A CD-ROM driven by the drive 13 may have typically a storage capacity of 660Mb.

The logic circuits feeding into the input output buffer and decode logic including management logic circuit 23 may include a logic board to control a further display associated with the screen, for example including light emitting diodes which may be used to signal the progress of the game or simply to attract potential customers. The special logic will also be used to control the operation of the apparatus in response to insertion of coins or the state of the credit of the player and, where applicable, to control the awarding and paying out of prizes.

CLAIMS:

1. The combination of amusement apparatus having video display apparatus and a memory for video images with digital video interactive equipment connected in use to control the extraction of selected video images from the memory and transmission to the video display apparatus.

2. The combination as claimed in Claim 1 wherein the equipment comprises an I-750 semiconductor.

3. The combination as claimed in Claim 1 or Claim 2 wherein the memory comprises a CD-ROM.

4. The combination as claimed in Claim 1 substantially as herein described with reference to the drawing.